I-006

Westside Resource Conservation District
P O Box 205 - Five Points, CA 93624 - Phone (209) 227-2488 - Fax (209) 227-0215

PAGER (209) 493-5536

JULY 25, 1997

Ms. Kate Hansel
CALFED Bay-Delta Program
1416 Ninth Street, Suite 1155
Sacramento CA 95814

Dear Ms. Hansel:

The Westside Resource Conservation District (WRCD) has prepared, for your evaluation, a proposal on Commercial Utilization of Salt and Selenium Reduction, as an Inquiry Submittal.

We are proposing to develop commercial uses for salt removed from drainage water, and to reduce its selenium load. The proposal has these two components:

1. Product development from harvested salt
2. Expansion of a demonstration program for a productive management of salt and selenium on farms.

If approved by you and your staff, we would prepare a formal proposal for project funding. We belive that the program supports CALFED objectives to enhance the water quality in the Bay-Delta ecosystem.

I have asked Mr. Vashek Cervinka, California Department of Food and Agriculture, to deliver this proposal to your office in Sacramento.

Sincerely,

Morris A. Martin, Manager

COMMERCIAL UTILIZATION OF SALT AND REDUCTION OF SELENIUM LOAD

Westside Resource Conservation District, P.O.Box 205, Five Points, CA 93624

Project Description and Primary Biological/Ecological Objectives

Salt and selenium will be managed as productive resources. Commercial uses for salt removed from drainage water will be developed. Selenium load in drainage water will be significantly reduced. The Westside Resource Conservation District, together with other agencies, has developed a technology for the environmentally effective management of drainage water, salt, and selenium on farms. Drainage water is sequentially reused to produce salt tolerant trees and plants. Salt is harvested in solar evaporators. Selenium volatilizes and is also uptaken by plants that can be used as "selenium enriched forage" for feeding livestock and wildlife in selenium deficient areas. The removal and commercial use of salts as well as the reduction of selenium load in drainage water will help to improve water quality in the Bay-Delta system -- these are the objectives of the proposed project.

Approach/Tasks/Schedule

The Commercial Utilization of Salt and Selenium Reduction Program will support research, and technological and business developments both in the private sector and in universities or other scientific organizations. It will be a competitive program. Financial support will be provided as cost share grants. These funds will support activities in the following tasks: (1) Research and development on the conversion of salts harvested on farms into technically innovative and commercially viable products, and (2) Practical demonstration projects on integrated systems for the removal of salt and the reduction of selenium load on selected farms

The schedule for the project is as follows:

1st year -- Advisory Board appointed. Program discussed and approved by the Advisory Board. Program approved by the WRCD Board of Directors. Program publicized. The development of three (3) projects.
2nd year & 3rd year -- The development of three (3) projects per year.
Each year -- Semi-annual reports will be prepared. A final report will be prepared at the end of the 3rd year. The results will be disseminated in workshops and in publications.

This Program will be managed by the Board of Directors and the General Manager of the Westside Resource Conservation District. Management costs will represent five (5) percent of program funds. The Directors and General Manager will have the assistance of an Advisory Board, as well as of a Technical Management Group. Established cooperation will continue with the staff of the USDA-NRCS, DWR, BOR, and other agencies. The Advisory Board will include growers and business people, as well as the representatives of government organizations, universities, research organizations, and environmental groups

Justification for Project and Funding by CALFED

On-farm removal of salts and reduction of selenium load will enhance the water quality in the Bay-Delta region. Removed salts and selenium will be managed as economic resources to achieve desirable environmental benefits. The proposed program will demonstrate the technological and commercial feasibility of salt removal and selenium reduction, and, thus, it will support the CALFED objectives for water quality in the Bay-Delta ecosystem.

Budget Costs and Third Party Impacts

The proposed program will require the following budget:

	Program Tasks	
	#1	#2
Number of projects	6	3
Costs per project ($)	50,000	60,000
Total costs ($)	300,000	180,000

Total budget for all tasks is $ 480,000. Cost sharing will be required. Task #1 may include funding for multi-year projects.

Applicant Qualifications

The Westside Resource Conservation District has been responsibly managing numerous technical and commercial programs for many years (Attachment A). The program Commercial Utilization of Salt And Selenium Reduction will be supervised by the Board of Directors and the General Manager, Mr. Morris Martin. He has had many years of experience in managing agricultural and water quality programs in the San Joaquin Valley. The members of the Technical Management Group, consisting of Clarence Finch, Frank Menezes, Doug Peters, and Vashek Cervinka, have had many years of experience in managing drainage water, salt, and selenium on farms in the San Joaquin Valley

Monitoring and Data Evaluation

Technical and commercial progress in the utilization of salts and in the reduction of selenium will be continually evaluated. The WRCD will have on-going cooperation and regular meetings with all members of the Advisory Board. The WRCD will prepare two semi-annual reports for the CALFED each year. The WRCD will prepare a comprehensive final report, with recommendations for further technical and commercial developments, at the end of this three-year program. The interim and final results will be published in newsletters, agricultural and trade journals, and as special reports. Two annual workshops (the 2nd and 3rd year) will be organized to present and discuss the results achieved.

Local Support/Coordination with other programs/ Compatibility with CALFED Objectives

The WRCD enjoys the support of growers, government agencies and universities and an effective cooperation with Water/Drainage Districts in the San Joaquin Valley. It has been providing leadership in the on-farm management of salt and selenium for many years. It has developed a saline agroforestry system based upon the technologies for sequential reuse of drainage water, selenium reduction and salt harvesting on farms. These technologies are important components of the SJVDP activities. The Bureau of Reclamation and the Westlands Water District, together with other agencies, financially support the WRCD's activities. The development of commercial uses for salts and the reduction of selenium load are extremely well correlated with CALFED objectives to enhance the water quality in the Bay-Delta ecosystem.

Attachment A

The Westside Resource Conservation District is managing and/or financially supporting the following projects:

1. Drainwater Selenium Remedial Management Utilizing Agroforestry System

2. Integrated System for Agricultural Drainage Water Management on Irrigated Farmland

3. Suitability of Atriplex as Supplemental Feed and Selenium Source for Cattle on Annual Rangeland

4. Investigation into the Vitrification of Salts from Evaporated Drain Water

5. Digestibility Testing for Salt Tolerant Plants

6. Managing High Selenium in Agriculture Drainage Water by Agroforestry: Role of Plant Selenium Volatilization

7. Panoche-Silver Creek Coordinated Resource Management Program

8. USDA-NRCS Strawberry Project

9. Food, Land, and People Project

10. Selection of Salt Tolerant Trees

11. Selection of Halophytes